

**THE MINISTER OF EARTH SCIENCES (SHRI KAPIL SIBAL) :** (a) and (b) Yes, Sir. The Ministry of Earth Sciences has initiated installation of equipments for detection of deep sea movements such as Sea Bottom Pressure Recorders and tide gauge network for anomalous sea level fluctuation.

India will be sharing the information on bilateral/multilateral basis with Indian Ocean countries and other countries.

(c) India is setting up its own early warning system for Tsunami in the Indian Ocean. It is not proposed to become part of the Pacific Tsunami Warning Centre.

### **Upgradation of Indian Astro-Physics Research Laboratories**

**523. DR. E.M. SUDARSANA NATCHIAPPAN:** Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the Indian Astro-Physics Research Laboratories are being upgraded to the global standard to meet the changing needs; and

(b) if so, what are the schemes proposed for further development of laboratories such as Kodaikanal Astro-Physics Research Institute?

**THE MINISTER OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL):** (a) Yes, Sir. Indian Institute of Astro-Physics has been making efforts to upgrade its research facilities/laboratories to the international standard.

(b) The Institute has proposed two major programs during the 11th Plan: (i) setting up of a National Large Solar Telescope (NLST) at a high altitude site in the trans-Himalayan region, and (ii) deployment of a solar coronagraph aboard an Indian satellite. The NLST is expected to be set up by the year 2012 and will be one of the most sophisticated and state-of-the-art solar telescopes in the world. For better night time sky conditions, the Institute has also set up an observatory at Kavalur, near Jolarpettai. At Kodaikanal, the solar tower-tunnel telescope is being modernized with new Charged Coupled Devices (CCDs) and new control systems for study of the Sun in great detail.